

WHAT IS CLAIMED IS:

1. In a method for preparing a polypeptide in a cellular host, where the polypeptide is heterologous to 5 the host and may be expressed in low percentage amounts of total protein, the improvement which comprises:

joining an open reading frame DNA sequence coding for said polypeptide with a second open reading frame DNA sequence coding for a heterologous ubiquitin, 10 to form a fusion polypeptide;

introducing the sequence coding for said fusion polypeptide under conditions for expression in said host, whereby said fusion polypeptide is expressed; and

isolating said fusion polypeptide to provide 15 said second polypeptide in high yield.

2. A method according to Claim 1, wherein said host is a eukaryotic host.

20 3. A method according to Claim 2, wherein said eukaryotic host is yeast.

25 4. A method according to Claim 3, wherein said DNA sequences are under the transcriptional regulatory control of a transcriptional initiation regulatory region comprising a promoter region for a glycolytic enzyme.

30 5. A method according to Claim 4, wherein said transcriptional initiation regulatory region is inducible.

6. A method according to Claim 1, where said host is prokaryotic.

7. A method according to Claim 6, wherein said prokaryotic host is *E. coli*.

8. A method according to Claim 1, wherein 5 said DNA sequence coding for said polypeptide is 3' to said DNA sequence coding for ubiquitin in the direction of transcription.

9. A method according to Claim 1, wherein 10 said DNA sequence coding for said polypeptide is 3' to said DNA sequence coding for ubiquitin in the direction of transcription.

10. In a method for preparing a mammalian 15 polypeptide in a yeast host, where the polypeptide may be expressed in low percentage amounts of total protein, the improvement which comprises:

joining an open reading frame DNA sequence 20 coding for said polypeptide with a second open reading frame DNA sequence coding for heterologous ubiquitin, to form a fusion polypeptide;

introducing the sequence coding for said fusion 25 polypeptide under conditions for expression in said yeast, whereby said fusion polypeptide is expressed; and

isolating said fusion polypeptide in high yield.

11. A method according to Claim 10, wherein 30 said conditions for expression include an inducible transcriptional initiation regulatory region.

12. A method according to Claim 11, where said transcriptional initiation regulatory region consists 35 essentially of a glycolytic enzyme promoter region and ADH2 control region.

13. A DNA sequence coding for ubiquitin joined to a DNA sequence coding for a mammalian polypeptide.

14. An expression sequence including in
5 direction of transcription, an inducible transcriptional initiation regulatory region and a DNA sequence according to Claim 13.

10 15. A polypeptide encoded for by a DNA sequence according to Claim 13.

15 16. A polypeptide according to Claim 15, wherein said mammalian polypeptide encodes for at least a portion of proinsulin.

17. A polypeptide according to Claim 15, wherein said mammalian polypeptide encodes for at least a portion of IGF-1 or IGF-2.

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